

## REMARKS

Claims 12-14, 16 and 21-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,087,032 to Yoshitake *et al.* ("Yoshitake") in view of WO 89/12107 to Brown ("WO '107"). Claim 15 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Yoshitake" and WO '107 in view of U.S. Patent No. 5,207,826 to Westland *et al.* ("Westland").

In the previous response mailed December 10, 2004, the Applicants noted that there are fundamental differences between the invention of pending independent claim 12 and the teachings of Yoshitake, WO '107, and Westland. The methods used by Yoshitake, WO '107 and Westland for the incorporation of metal particles can employ one of two processes: (1) preformed metal particles that are entrapped in the cellulose matrix during a sheet casting process; or (2) metal particles that deposited or epitaxially grown on the surfaces of the cellulose by vaporization of a metal.

It was further stated that in pending independent claim 12, the deposition of metal catalyst particles is from the corresponding metal salt (e.g., hexachloropalladate) in solution that is infused into the natural cellulose structure. Particle formation is then initiated by reduction of the metal salts (e.g., hexachloropalladate) by the reducing ends of the cellulose chains.

An Inventor's Declaration under 37 C.F.R. § 1.132 was provided in order to provide evidence that the claimed product is necessarily different from the prior art's product. In the Declaration, the first named inventor provided evidence that the precipitation of a metal catalyst from a metal salt in bacterial cellulose renders the claimed product necessarily different from the prior art's product.

In Items 5 and 6 of the present Office Action, a response to the Applicants' arguments and Inventor's Declaration submitted December 10, 2004 is provided.

Among other things, it is stated that:

“the present claim language makes no further distinction as to what specific deposition method is ultimately intended” and;

“the claim language fails to positively set forth the specific deposition method, and therefore, the present claim language is not commensurate in scope with the arguments presented in applicant's declaration”.

Looking at pending independent claim 12, the clause beginning at the middle of line 8 and ending at line 11 reads as follows:

“the metal catalyst being disposed in or on the electrode support structure by placing the electrode support structure in a solution of a metal salt for a sufficient time period such that the metal salt is reduced to metallic form and the metal catalyst precipitates in or on the electrode support structure”.

Thus, claim 12 clearly sets forth “placing the electrode support structure in a solution of a metal salt” (i.e., a “specific deposition method” in the language of the Office Action).

Furthermore, the text of the Inventor's Declaration describes “a chemical deposition method using the oxidation-reduction potentials of the metal salt and the cellulose reducing ends.” (Underlining added.) Thus, the Declaration directly addresses language in pending claim 12. Accordingly, it is believed that the present claim language is commensurate in scope with the arguments present in the Applicant's declaration.

Therefore, reconsideration of the rejections is respectfully requested as: (1) Yoshitake does not disclose the use of bacterial cellulose in an electrolyte membrane or a fuel cell anode or a fuel cell cathode as recited in claim 12; and (2) Westland and WO 89/12107 do not describe precipitation of a metal catalyst from a metal salt in

bacterial cellulose as specifically recited in claim 12. Thus, all of the limitations of pending independent claim 12 (and claims 13-16 and 21-24 that depend thereon) are not taught in any combination of Yoshitake, Westland and WO 89/12107.

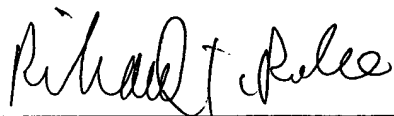
Furthermore, the Inventor's Declaration provides evidence that the precipitation of a metal catalyst from a metal salt in bacterial cellulose renders the claimed product necessarily different from the prior art's product. The precipitation of a metal catalyst from a metal salt in bacterial cellulose is recited in pending claim 12 and the Inventor's Declaration directly addresses this feature of the invention.

#### Conclusion

It is submitted that the entire application is in condition for allowance. No fees are believed to be needed for this amendment. If fees are needed, please charge them to Deposit Account 17-0055.

Respectfully submitted,  
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